B1 Chapter 1: Cells

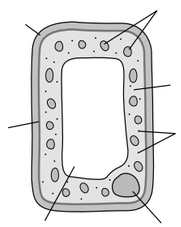
Knowledge organiser

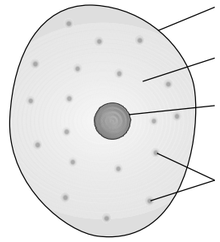
All living things (organisms), are made of **cells**. Some are only made of a single cell, for example, bacteria. A person is made up of millions of cells joined together.

Plant and animal cells

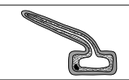
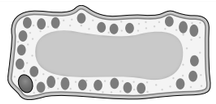
Cells have smaller structures inside them, called components, that each have an important function.

Label the plant and animal cell.



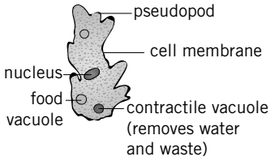


Specialised cells have special features that allow them to do a specific job or function:

	Cell type	Function	Special features	Diagram
plant cells	root hair cell		• •	
	leaf cell (palisade cell)		• • •	
animal cells	red blood cell		• • •	
	nerve cell (neurone)		•	
	sperm cell		• •	

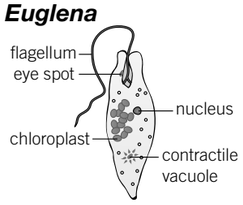
Unicellular organisms: consist of _____ cell, have no fixed shape, and are adapted to carry out many different functions

Amoeba



- _____ controls growth and reproduction
- move by moving part of their body and the rest follows slowly in the same direction
- eat bacteria, algae, and plant cells by _____ them
- _____ by splitting in half (binary fission)

Euglena



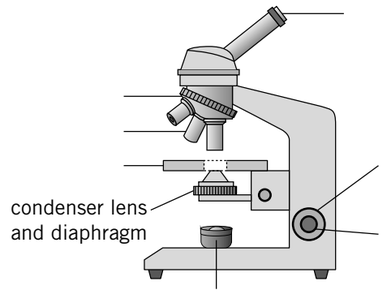
- microscopic organism found in fresh water
- contain _____ and make their own food by _____
- _____ that detects light
- _____ allows the *Euglena* to move towards the light to make more food

Microscopes

Cells can only be seen under a _____. A microscope magnifies an object using _____.

Remember that:

- the specimen needs to be _____ so light can pass through
- a _____ can be added to make the object easier to see.



Using a microscope

1. Move the stage to its _____ position.
2. Place the slide/object on the _____.
3. Choose the objective lens with the _____ magnification.
4. Look through the _____ and turn the _____ -focus knob slowly until you see the object.
5. Turn the _____ focus knob until it comes into focus.
6. Repeat steps 1–5 using a _____ magnification lens.

Movement in and out of cells

Particles move in and out of cells by_____.

During diffusion, particles spread out from where they are in _____ **concentration** to where they are in _____ concentration.

Diffusion in the body

Direction of movement	Substance
Blood to cells	**1.** **2.**
Cells to blood	**1.**

Key Words

Make sure you can write a definition for these key terms.

amoeba ***binary fission*** ***cell*** ***cell membrane*** ***cell wall*** ***chloroplast*** ***concentration*** ***cytoplasm*** ***diffusion*** ***Euglena*** ***flagellum*** ***leaf cell*** ***microscope*** ***mitochondria*** ***nerve cell*** ***nucleus*** ***red blood cell*** ***root hair cell*** ***specialised cell*** ***sperm cell*** ***unicellular*** ***vacuole***